

APPLICATION NO.: 10/691,705
Attorney Docket No.: ST3001-0031
Response and Amendment

REMARKS

Favorable reconsideration, reexamination, and allowance of the present patent application are respectfully requested in view of the foregoing amendments and the following remarks.

Allowable Subject Matter

Applicant gratefully acknowledges the indication, at page 2 of the Office Action, that the subject matter of Claims 8-16 contains allowable subject matter.

Rejection under 35 U.S.C. § 112, second paragraph

In the Office Action, beginning at page 2, Claims 1-9 were rejected under 35 U.S.C. § 112, second paragraph, as reciting subject matter that is allegedly indefinite. Applicant respectfully traverses this rejection and requests reconsideration for at least the following reasons.

In the Office Action, the Examiner indicates that “to relieve a state of hermetic sealing” is not clear. However, it is respectfully submitted that when read in view of the specification, this feature is clearly understood. In order to expedite prosecution, Applicant hereby amends claim 1 to replace the feature with a substantially equivalent expression. Namely, the feature of an “aperture configured to form at least one of a space adjacent the soft resin into which the soft resin expands during operation of the semiconductor device and an opening exposed to atmosphere adjacent the soft resin from which the soft resin expands during operation of the semiconductor device, the aperture” is added to replace the objected to “hermetic sealing” feature. It is respectfully submitted that, because the added feature is substantially equivalent to the removed feature, this particular amendment results in no change to the scope of the claim, and clearly defines the metes and bounds of the claim.

For at least the foregoing reasons, Applicant respectfully submits that Claims 1-9 fully comply with 35 U.S.C. § 112, second paragraph, and therefore respectfully requests withdrawal of the rejection thereof under 35 U.S.C. § 112.

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Rejection under 35 U.S.C. § 103(a)

In the Office Action, beginning at page 2, Claims 1, 3 and 8 were rejected under 35 U.S.C. § 103(a) as reciting subject matter that is allegedly obvious, and therefore allegedly unpatentable, over the disclosure of U.S. Patent No. 6,850,001 to Takekuma (the US'001 patent) in view of the disclosure of Japanese Patent No. 09-083018 (the JP'018 patent). This rejection is respectfully traversed, and Applicant requests reconsideration for at least the following reasons.

US'001 discloses a light emitting diode that "has no fluctuations in optical properties and good sealing properties." As shown in Fig. 1A of US'001 (reproduced below), the light emitting diode 10 includes a light emitting diode chip 50 that is held by base 30. Resin material 70 surrounds the light emitting diode chip 50 and "has the effect of adhering and anchoring the lens member 20 while eliminating the air layer." (See column 4, lines 4-18 of the US'001 specification). The lens member 20 is pressed into place during fabrication of the light emitting diode 10.

As shown in Fig. 2A of US'001, the lens 20 can include a pair of grooves 26. The grooves 26 allow air and excess resin material 70 to be released during the process of attaching the lens 20 to the base 30.

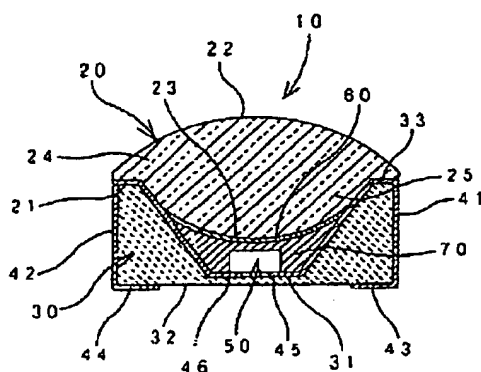


Fig. 1A of US'001

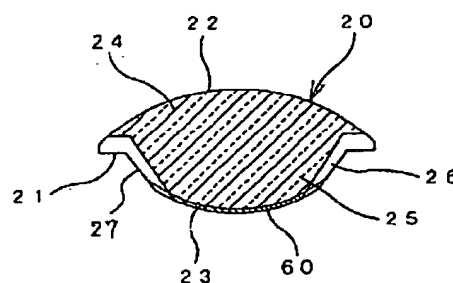


Fig. 2A of US'001

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The JP'018 patent discloses an LED unit that has a condenser ball lens 2 located above an LED 3 and in a translucent region 7. In the Office Action, it is indicated that "one of ordinary skill in the art would understand that a similar flow (of resin material) had to take place when the lens of the Japan 9-83018 reference was placed in position."

Both US'001 and JP'018 fail to disclose the use of at least the feature of an aperture configured to form at least one of a space adjacent the soft resin into which the soft resin expands during operation of the semiconductor device and an opening exposed to atmosphere adjacent the soft resin from which the soft resin expands during operation of the semiconductor device. In fact, both references specifically indicate that an object of the invention is to remove air pockets or spaces in or adjacent the resin (see, for example, the Abstract of the US'001 patent, and paragraph [0011] of the JP'018 patent).

Because neither the US'001 patent nor the JP'018 patent, either alone or in combination, teach the above-referenced feature, as well as other features, of Applicant's claim 1, it is respectfully submitted that there is no *prime facie* case for obviousness.

The Office bears the initial burden of establishing a *prima facie* case of obviousness. M.P.E.P. § 2142. If the Office fails to set forth a *prima facie* case of obviousness, Applicant is under "no obligation to submit evidence of nonobviousness," such as unexpected results or commercial success. *Id.* In other words, if the Office fails to meet the initial burden of establishing a *prima facie* case of obviousness as to a given claim, then that claim is not obvious without any specific evidence of nonobviousness by Applicant.

In order to establish a *prima facie* case of obviousness, the Office must satisfy three requirements. M.P.E.P. § 2142. First, "the prior art reference, or references when combined, must teach or suggest *all* the claim limitations." *Id.* (emphasis added). Second, the Office must show that there is "some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." *Id.* Finally, "there must be a reasonable expectation of success." *Id.*

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In the present case, as stated above, neither of the cited references either alone or in combination teaches or suggests at least the feature of an aperture configured to form at least one of a space adjacent the soft resin into which the soft resin expands during operation of the semiconductor device and an opening exposed to atmosphere adjacent the soft resin from which the soft resin expands during operation of the semiconductor device, as recited in claim 1. Thus, the Office Action fails to establish a *prima facie* case of obviousness as to claim 1.

Further, the Office Action attempts to provide motivation for modifying US'001 with JP'018 by stating that "one of skill in the art would understand that a similar flow had to take place when the lens of the Japan 9-830118 (JP'018) reference was placed in position", and that "hard resin for the holder would have been obvious." However, it is respectfully submitted that modification of the shape of the JP'018 lens would destroy its intended functionality and purpose. Thus, in addition to the fact that neither reference (alone or in combination) discloses at least one feature of applicant's claim 1, the motivation for combining the references is also deficient. Finally, the Office Action fails to show that one of ordinary skill in the art would have reasonably expected success by modifying US'001 in view of JP'018 as suggested by the Office Action.

The Office Action fails to meet any of the three requirements for establishing a *prima facie* case of obviousness. Therefore, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. § 103(a) be withdrawn.

Further, since claims 3 and 8 depend from and respectively incorporate all the features of claim 1, claims 3 and 8 are also not obvious over US'001 in view of JP'018 at least for the above reasons for which claim 1 is not obvious, and for the separate features that each of these claims recites. Thus, Applicant respectfully requests that the rejection of claims 1, 3 and 8 under 35 U.S.C. § 103(a) be withdrawn.

Claims 21-23 are added by this Amendment to include claims having an alternate scope of patent protection.

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Conclusion

Applicant respectfully submits that the present patent application is in condition for allowance. An early indication of the allowability of this patent application is therefore respectfully solicited.

If the patent examiner believes that a telephone conference with the undersigned would expedite passage of this patent application to issue, they are invited to call on the number below.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. If, however, additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and the Commissioner is hereby authorized to charge fees necessitated by this paper, and to credit all refunds and overpayments, to our Deposit Account 50-2821.

Respectfully submitted,
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